[VOCATIONAL TRAINING REPORT]

DIGITAL ATTENDANCE MANAGEMENT SYSTEM

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BRANCH: Computer Science and Engineering

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SUBMITTED ON:

ABSTRACT

Over the years the manual attendance management has been carried across most of educational institutions. To overcome the problems of manual attendance, I have developed "web-based attendance Management System".

Attendance Management System is based on web server, which can be implemented on any computer. In This application, PHP is server-side language, MySQL and PHP is used as back-end design and HTML, CSS and JavaScript are used as front-end tools.

The system communicates with database residing on a remote server. It calculates automatically, the attendance percentage of students without any manual paper-based work. The system facilitates the end users with interactive design and automated processing of attendance management.

ACKNOWLEDGEMENT

I Aman Kumar, would sincerely like to thank TATA STEEL for providing with the Vocational Training facility.

The creation of the project lead to gain in knowledge about database management systems and their comparison queries.

Thank you for making this project a success.

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1. INTRODUCTION

1.1 Problem and Motivation

In most educational institutions the attendance is taken manually. It is not only time consuming, but it is also unsecure and unreliable and it can be lost. Some institutions are using punch card for attendance while this will be difficult for teachers to keep track of the large number of students because by using punch card, a student can help the other students or his/her friend to punch their card even the other student may be absent or come late in class, so it is not reliable.

To overcome these problems, I have developed a better system which is Web based; it is fully responsive where a user can use in mobile, tablets and different computer systems. In this system records are kept safe and secure and the attendance information of particular or all students of particular class can be accessed easily and without time consuming, the report is generated automatically.

1.2 Purpose and Objectives

1.2.1 Purpose

The main characteristics of my developed system is that it is web based, fully responsive and flexible. It can be accessed from any computer no matter where you are.

Its purpose is to make a web-based attendance software for ICIT department to register the student details; their subjects, teachers, and related field. The daily attendance of students is taken automatically by selecting student name and program, If the student was present then the present check box is clicked similarly if the student was absent then the absent check box is clicked instead of the present check box, and by clicking the save button information will be stored in database. The attendance report will be generated automatically without time consuming which is reliable and there will be not any mistakes.

1.2.2 Objectives

- Eliminate duplicate data entry and error in time and attendance entries.
- Eliminate paper work and save time.
- Automatic calculation of attendance to increase security.

1.3 Materials

1.3.1 Hardware

- A dell laptop

1.3.2 Software

- XAMPP SERVER
- Windows 10
- 64-bit operating system

2. TOOLS& TECHNOLOGIES

2.1 XAMPP Server

XAMPP is often used for web, development and internal testing, it also can be used for serving live websites.

Xampp Server is available freely in two versions that is 32 and 64 bits. Keep in mind that Wamp server 2.5 is not compatible with Windows XP, SP3, and Windows Server 2003. Its older versions are available on Source Forge.

2.1.2 Apache

The Apache HTTP Server, informally called Apache, is the world's most popular web server software that in 2009 it became the first web server software to serve more than 100 million websites. The Apache development began in early 1995 and originally based on the NCSA HTTP server. Apache is developed and maintained by an open community of developers under the patronage of the Apache Software Foundation. Mostly used on a Unix-like system, the software is also available for a vast variety of operating systems, including Microsoft Windows, Open VMS, NetWare and TPF.

2.1.3 MySQL

SQL stands for Structured Query Language. MySQL is an open-source Relational Database Management System (RDBMS); it is a popular database for use in web applications, and is a central part of the greatly used LAMP (Linux, Apache, MySQL, Perl/PHP/Python) open-source web application software stack. MySQL is used by many applications like, WordPress, Joomla, TYPO3, Drupal, MyBB, phpBB, MODX and other software. Numerous large scale websites including Google, YouTube, Facebook, Twitter, and Flickr are also using MySQL. On all platforms excluding Windows, MySQL sends with no GUI (Graphical User Interface) to administer MySQL databases or managing the data held within the databases. Users may install MySQL Workbench by downloading separately or simply may use the command line tools. Numbers of third-party GUI tools are also available.

2.1.4 PHP

It stands for PHP: Hypertext Pre-processor but, originally stood for Personal Home Page. It is a server-side scripting language that designed for web development, as well as used for general purpose language. It was created in 1994 by Rasmus Lerdorf, in the present time the reference execution of PHP is produced by the PHP group.

2.1.5 PhpMyAdmin

It is an open source tool and also, it is free written in PHP, XHTML, CSS, and JavaScript planned to manage the administration of MySQL by using of a web. It is able to perform various missions like creating, modifying databases, tables, fields, executing SQL statements or managing and supervise users.

PhpMyAdmin is being translated into 72 languages in order to make the usage easy to a wide domain of people and it supports both LTR and RTL languages.

Following is some features of the phpMyAdmin,

It is web interface
It administrates multiple severs
It is able to create PDF graphics of the database layout
Importing data from SQL and CSV
Export data to different formats such as SQL, PDF, CSV, XML and others
It works with various Operating Systems

2.2 The Sublime Text 3 editor

Sublime Text is a cross platform source code editor written in C++ and python. It originally supports plenty of programming and markup languages, and its functionality can be increased via users with plugins.

It is downloaded from www.sublimetext.com/3, site.

2.3 HTML AND CSS

HTML stands for Hypertext Markup Language and CSS stands for Cascading Style Sheets are the crucial technologies for creating web pages. HTML supplies the structure of the page, and CSS the layout, for diversity of devices. Together with scripting and graphics, HTML and CSS are the fundamental of building Web Applications and Web pages.

HTML provides designers and developers the following facilities,

- To design forms for directing transactions with remote services, for use in making reservation, searching for information, ordering products, and others
- Retrieving online information through hypertext links.
- To include video and sound clips, spread sheets, and other applications straight in their documents

Designer can publish online documents with text, headings, tables, photos and others. CSS describes the Web pages presentation, involving layout, colours, and fonts. It enables the designer to adjust the presentation to various types of devices, like a small screens, large screens, or printers.

CSS is separate from HTML, and their separation makes it easy to preserve and maintain sites, share style sheets across pages, and accommodate pages to various environments.

2.4 Frameworks

2.4.1 Bootstrap

Bootstrap is front-end framework and collection of tools and mechanisms for building web applications. It consists of HTML and CSS based design templates for navigations, forms, buttons, typography, and other interface elements, and also JavaScript extensions.

Bootstrap is free and open source, and its purpose is to make easy the development of dynamic websites and web applications. It is the most starred project on GitHub, with more than 85,000 stars and 34,000 forks.

2.4.2 JavaScript Framework(jQuery)

jQuery is JavaScript library intended to make simple the client-side scripting of HTML. It is the most popular JavaScript framework, which is free and open-source software licensed under the MIT License.

3. EXISTING SYSTEMS

3.1 Attendance Management System

This software has developed for daily attendance of students. It made easy to access the attendance information of a particular student. The information is stored through operators, and provided by teacher for related class. This software is helpful in evaluating the attendance eligibility of a student.

Its purpose was to computerize the tradition way of taking attendance and generating of report automatically at the end or between of the session. This project has developed as a desktop application for a specific institute. The technologies which have been used are, VB.NET language and for backend MS-Access.

The other existing systems are,

3.2 Student attendance Management

This system has same task and quality as upper software but here technology that used is, Language: ASP.NET

Backend: SQL.

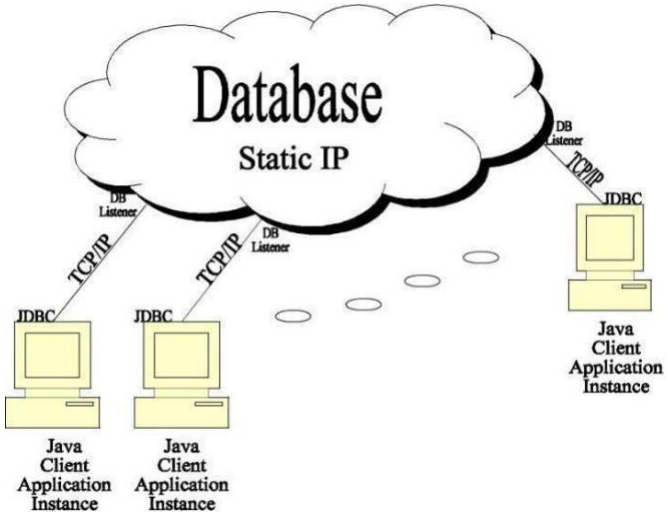
3.3 Administration and Student Affairs System

It is a two-tier system which consists of a dedicated database, and a specially constructed Java Client Application. The upside of this solution is that the processing is no more centralized. On the contrary, the client application consumes the resources of the user running it locally. The only thing that is centralized is the database.

Manipulate the database through Java Client Application by using JDBC API offered by the Oracle for connecting and retrieving data from data sources.

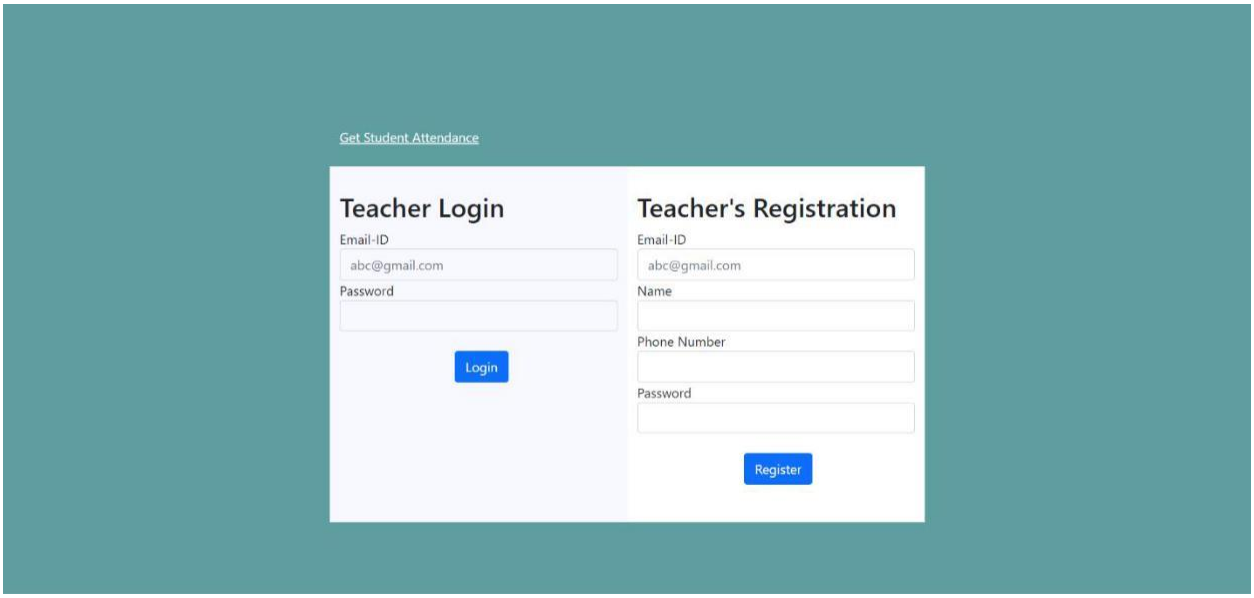
The resource consumption was minimized by utilizing parallel processing through the Threading API of the Java platform, also, the event driven nature of the desktop application made minimizing the resource consumption easier, since only the process that the user initiates will be using the resources

3.3.1 Graphical Representation of Project

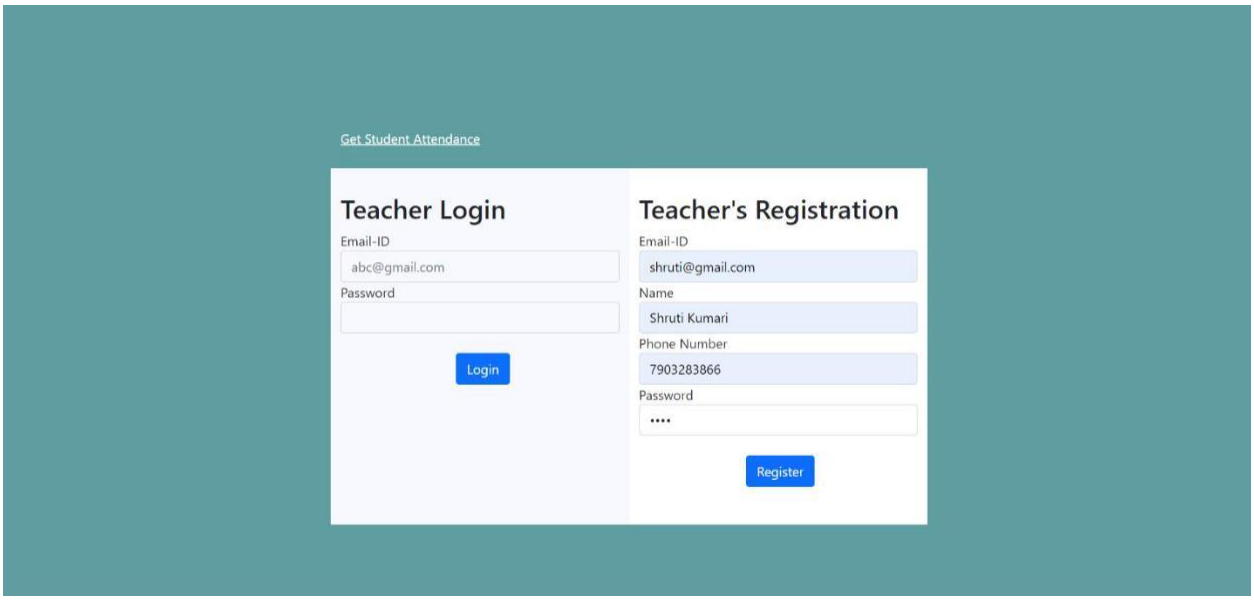


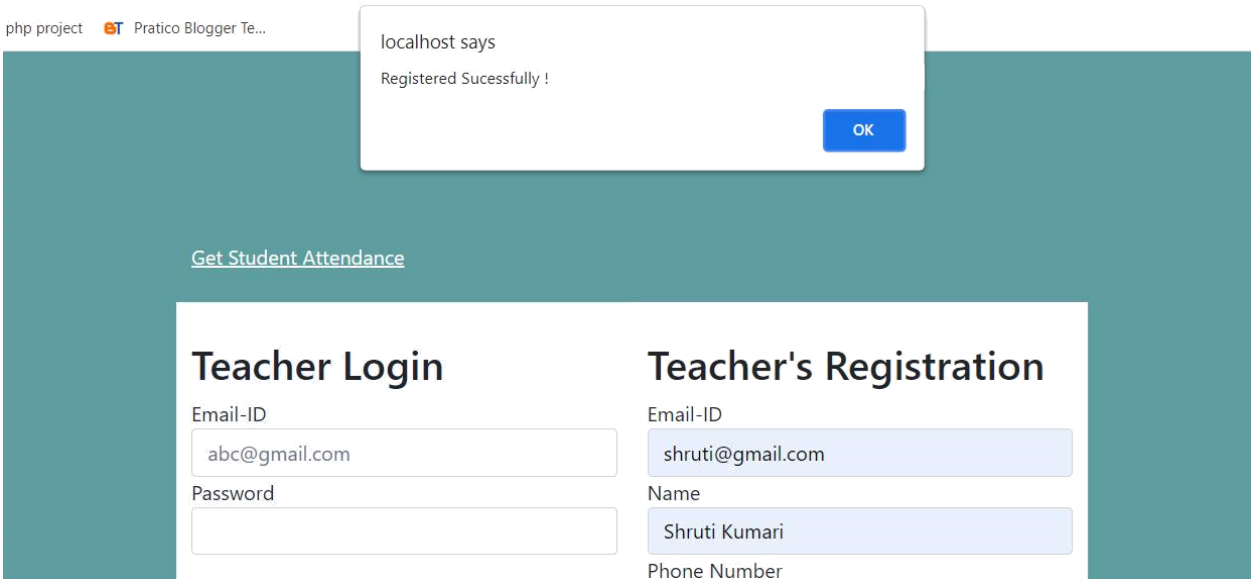
4. PROPOSED SYSTEM(Front-End)

Register



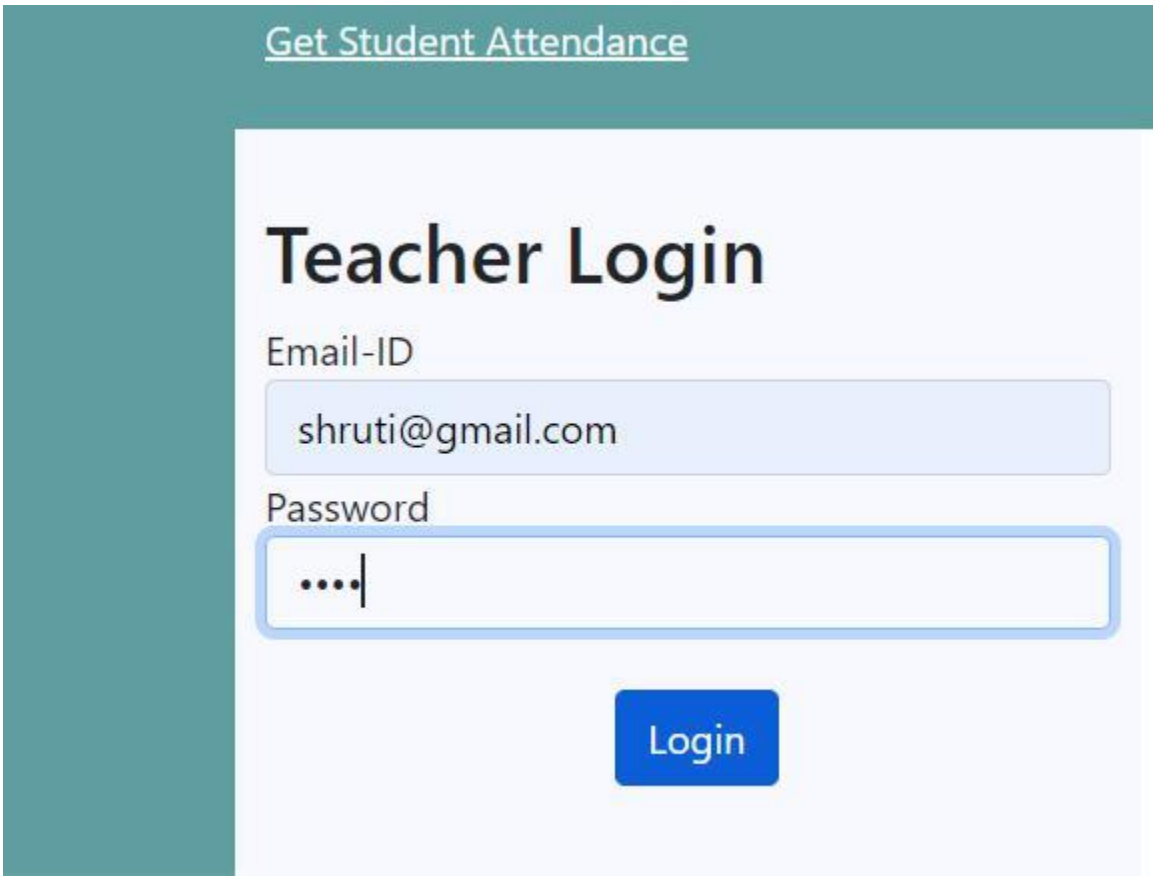
This the home page of the proposed system which consists of 3 button : teacher's account regisistration, teacher's login and a link to get student's attendace in any subject.





The teacher has to enter his/her email-ID, name, phone number and password. The promt message will show if your registration was successful or not. After successful registration they have to login in their account.

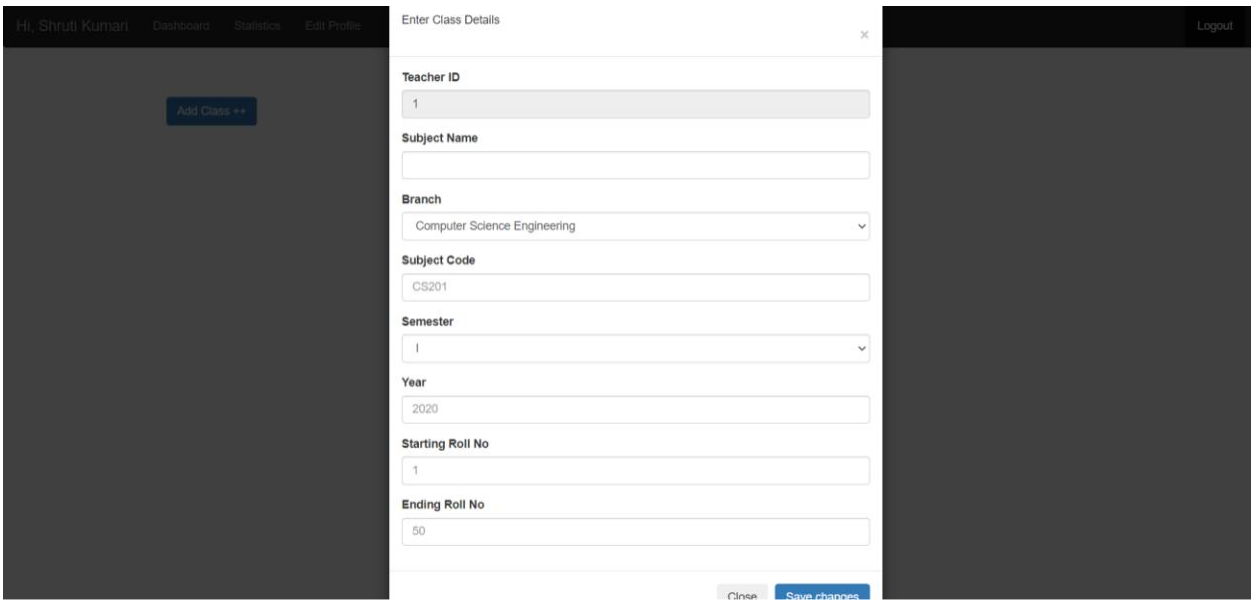
Login



After login teacher's dashboard will be shown, which looks like this. It has 3 links on the navbar i.e. statistics(to get the overall result), edit profile and logout.

Add Class

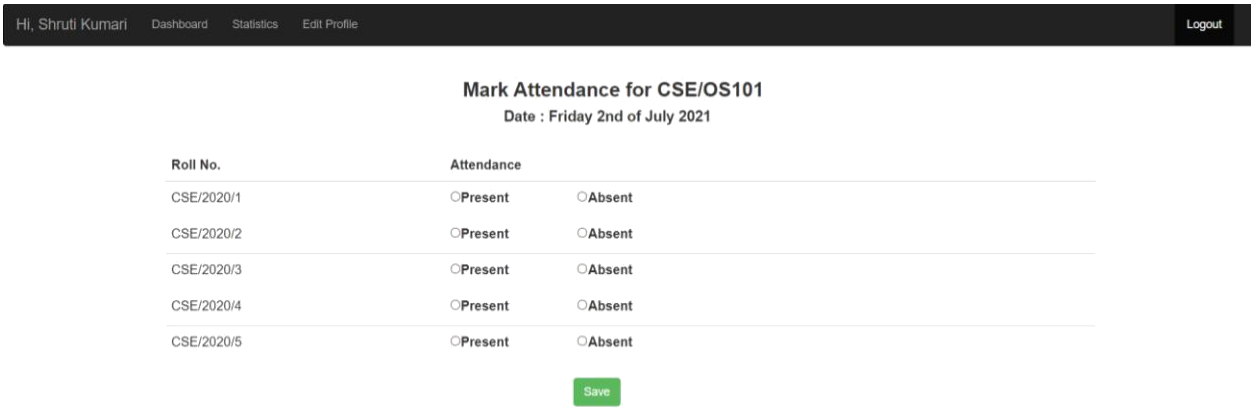
The dashboard also shows all the classes which the teacher's takes with respective branch and student details. Teacher can also add new class by entering the following details.



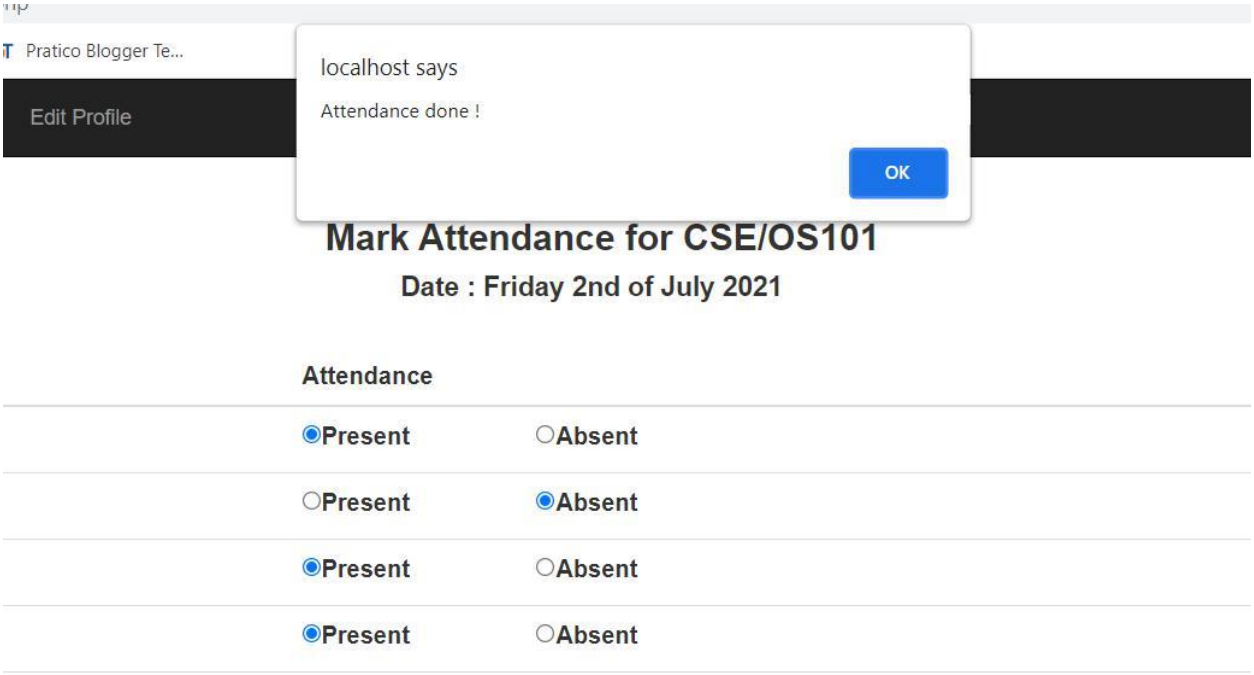
Here, Teachers ID is fixed and is given by mysql.

Now to mark the attendance in a class, respective class button should be clicked, and it will show an interface like this.

Mark Attendance



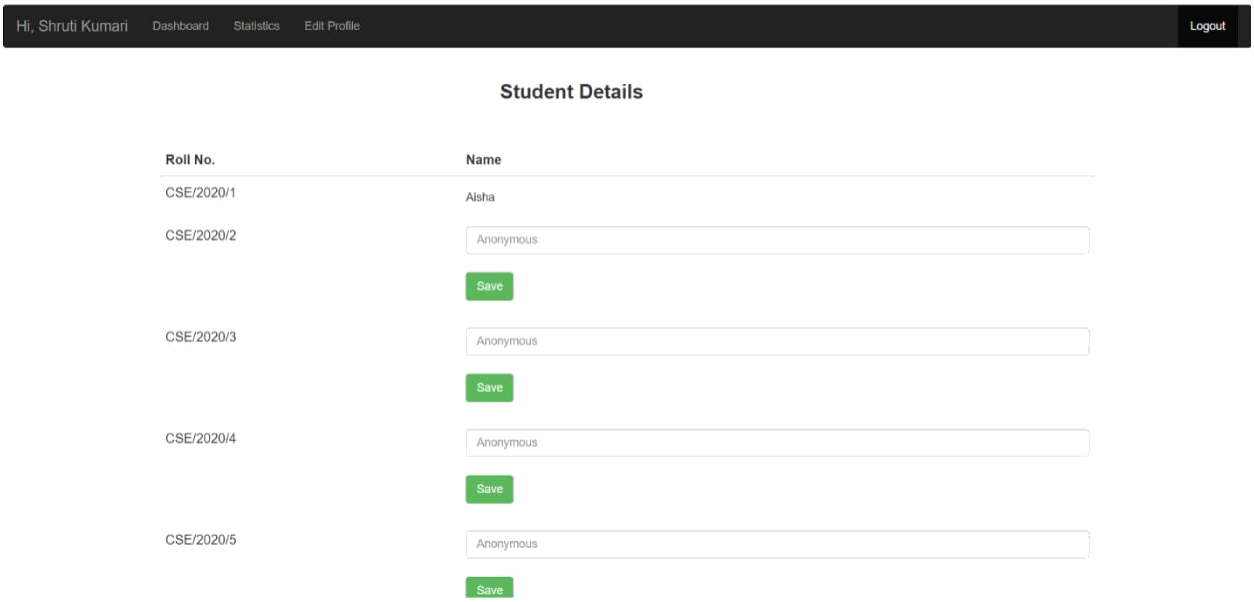
The attendance is marked on present or absent radio button.



This shows the data is successfully saved in the database.

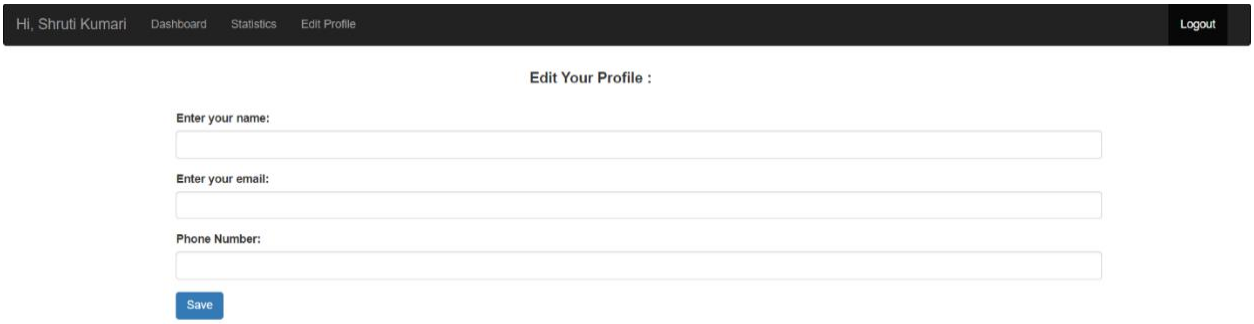
In the Student Detail button, the name of the student is shown along with their Roll No. Teacher can also Save their name if not present.

Save Student Details



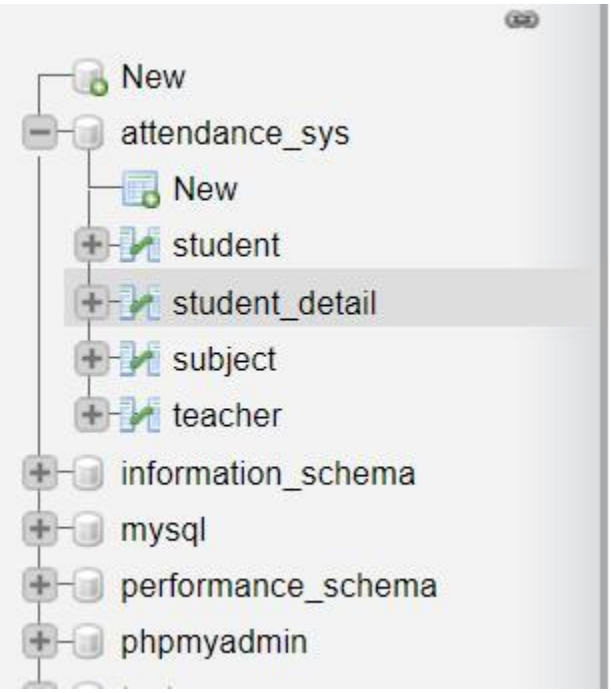
The Edit Profile feature in the navbar, will allow the teacher to edit his/her data.

Edit Profile

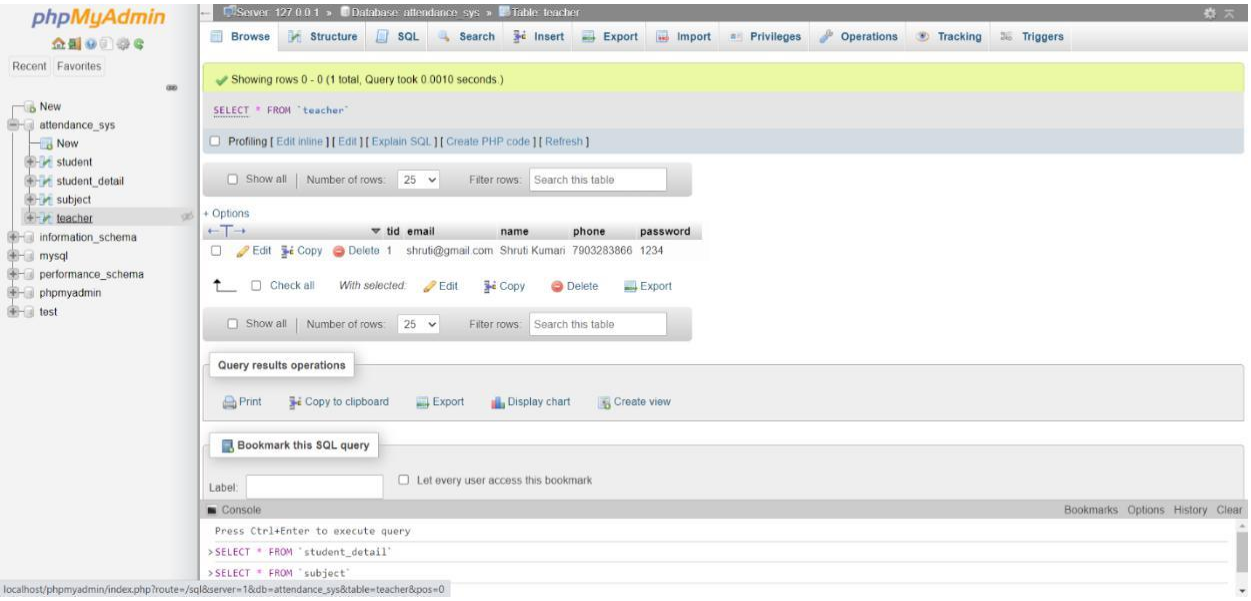


5. PROPOSED SYSTEM(Back-End)

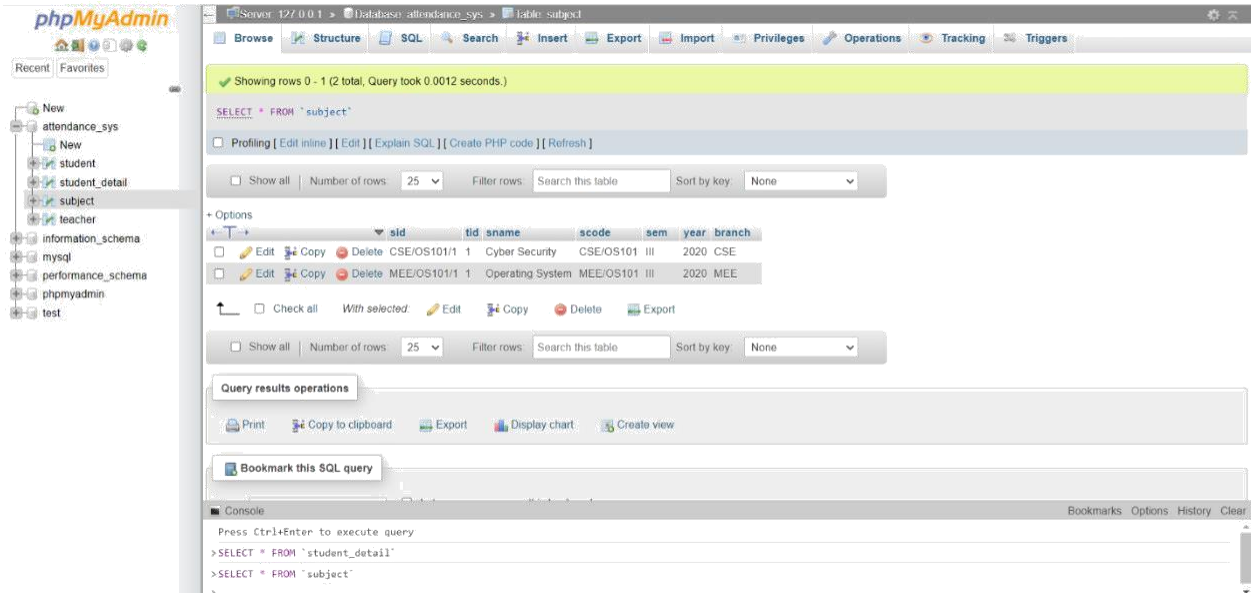
To achieve the flow of data and data processing task, I have created a database named attendance_sys and inside this database four entities have been created, mentioned below, Attendance Database is:



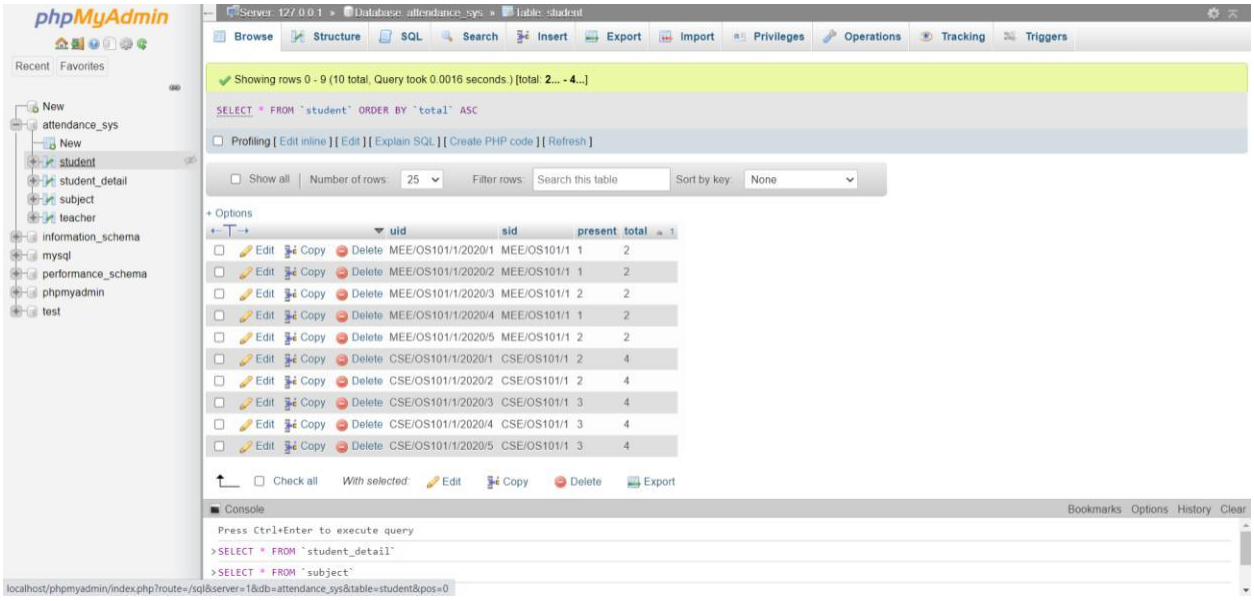
Teacher entity



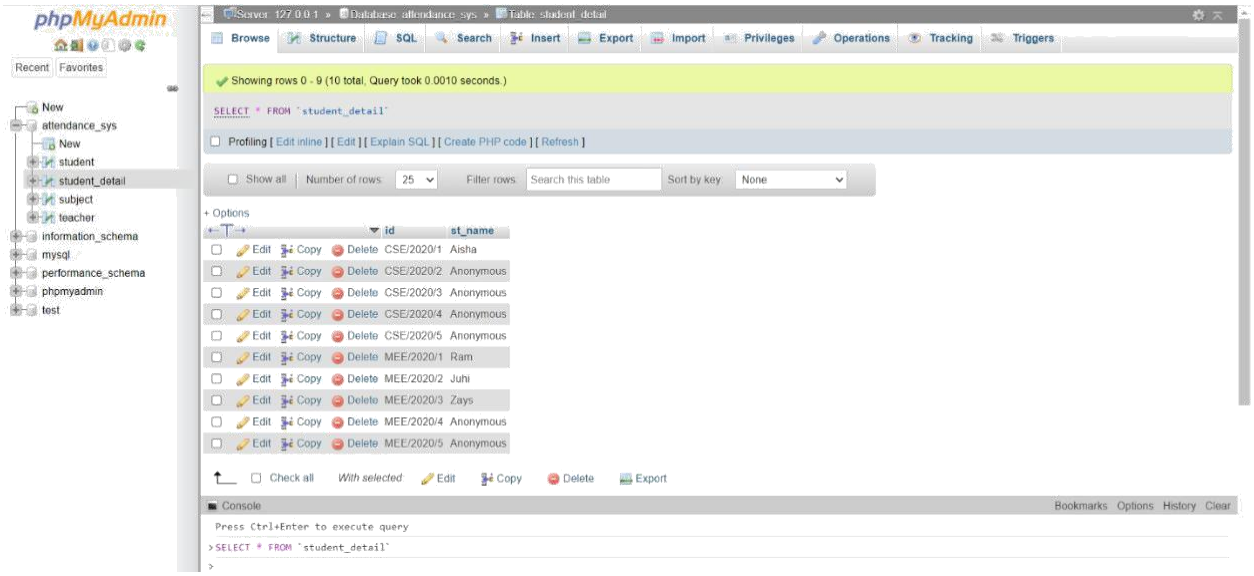
Subject entity



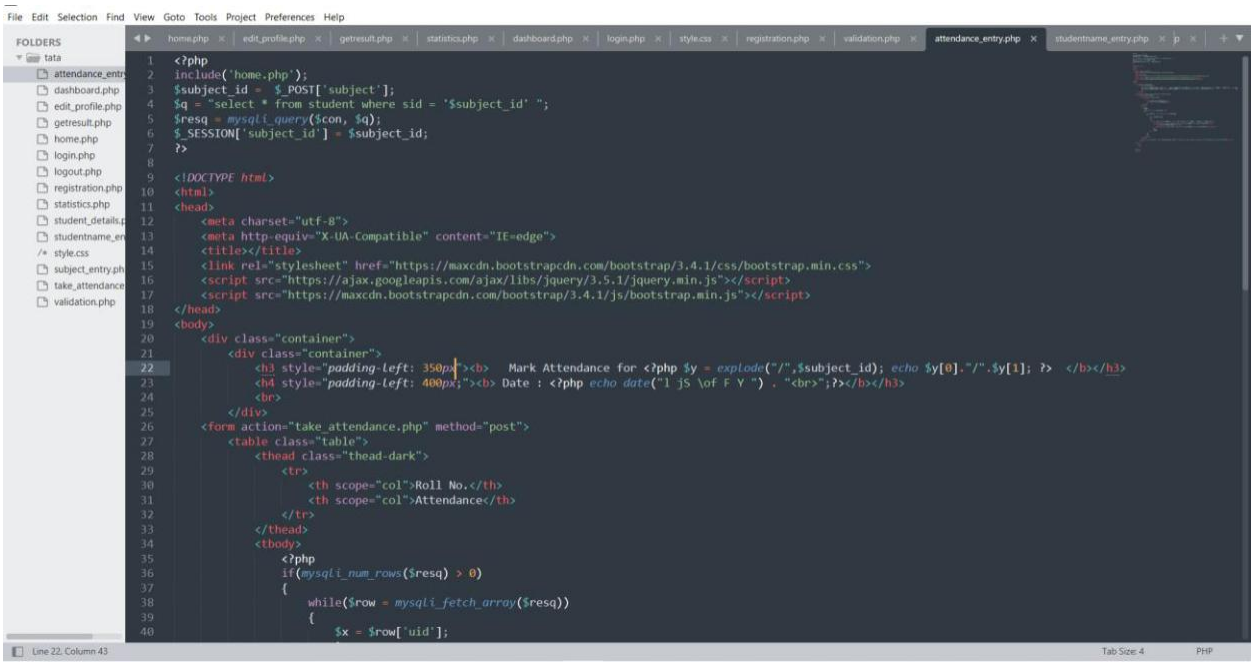
Student entity

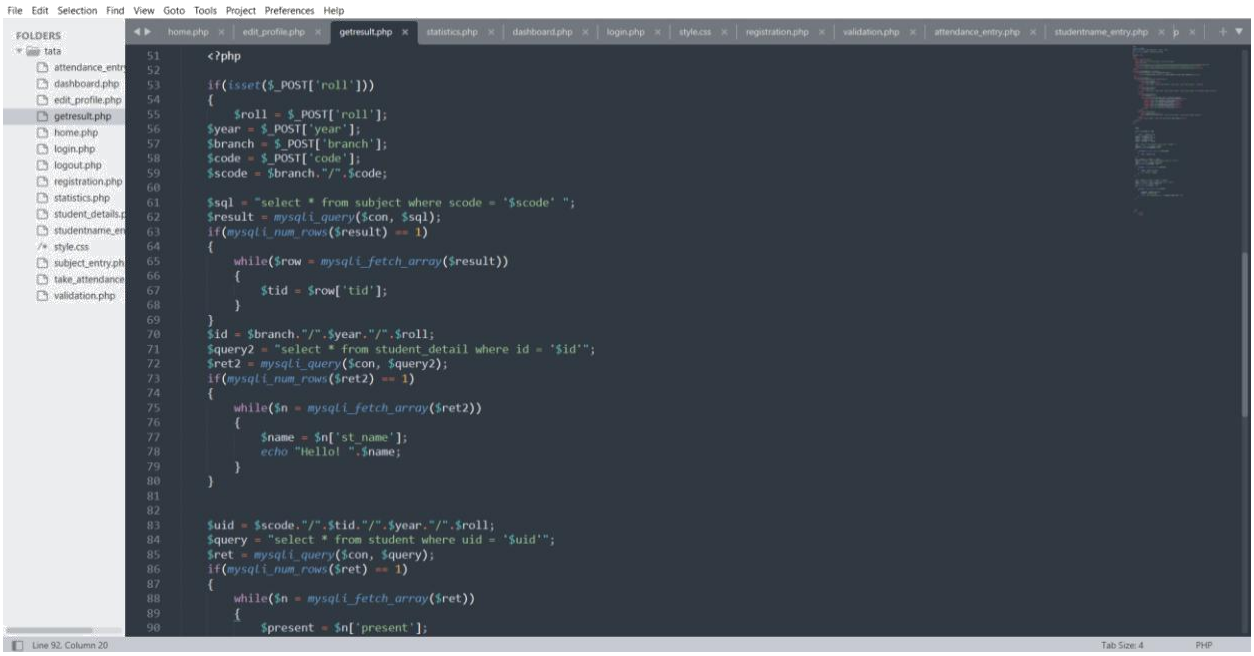


Student Detail entity



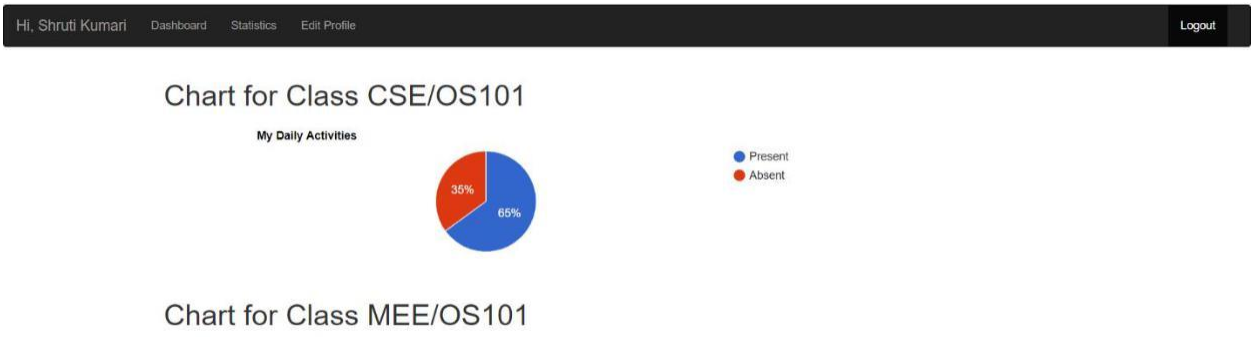
Here are glimpses of the code.




File Edit Selection Find View Goto Tools Project Preferences Help
FOLDERS
tata
attendance_entry.php
dashboard.php
edit_profile.php
getresult.php
home.php
login.php
logout.php
registration.php
statistics.php
student_details.php
studentname_entry.php
style.css
subject_entry.php
take_attendance.php
validation.php
home.php
edit_profile.php
getresult.php
statistics.php
dashboard.php
login.php
style.css
registration.php
validation.php
attendance_entry.php
studentname_entry.php
<?php
if(isset($_POST['roll']))
{
$roll = $_POST['roll'];
$year = $_POST['year'];
$branch = $_POST['branch'];
$code = $_POST['code'];
$scode = $branch."/".$code;
$sql = "select * from subject where scode = '$scode' ";
$result = mysqli_query($con, $sql);
if(mysqli_num_rows($result) == 1)
{
while($row = mysqli_fetch_array($result))
{
$tid = $row['tid'];
}
}
$id = $branch."/".$year."/".$roll;
$query2 = "select * from student_detail where id = '$id'";
$ret2 = mysqli_query($con, $query2);
if(mysqli_num_rows($ret2) == 1)
{
while($n = mysqli_fetch_array($ret2))
{
$name = $n['st_name'];
echo "Hello! ".$name;
}
}
$uid = $scode."/".$tid."/".$year."/".$roll;
$query = "select * from student where uid = '$uid'";
$ret = mysqli_query($con, $query);
if(mysqli_num_rows($ret) == 1)
{
while($n = mysqli_fetch_array($ret))
{
$present = $n['present'];
Line 92, Column 20
Tab Size: 4
PHP

6. RESULT AND ANALYSIS

There are 2 reports generated, one is the overall report of the students in a class the other is the report of each student in the respective classes.



The overall report can be accessed by the teacher by clicking on the Statistics link, it will generate the average attendance and attendance of each student in tabular form.

Student can also get their attendance in each subject by entering the details.

7. CONCLUSION AND FUTURE WORK

7.1 Conclusion

In this work ,the web based attendance management system is developed using PHP server-side scripting language and CSS,HTML ,JavaScript for designing which is fully meet the system's goals.

This system overcome many limitations incorporated in attendance, this system saves a great amount of time and reduces errors which may occur during attendance calculation.

The system I have developed is fully responsive which can be used in mobile, tablets and different operating systems. Some other benefits are,

- Automated and web-based for easy accessibility
- It is a dynamic and flexible system
- It excludes paperwork and the possibility of making mistakes while using paper for taking attendance
- It is very user friendly and handy
- The records of current and previous can be available in prompt and an immediate.

7.2 Future work

I will make some future improvement in my project by making this Biometric Attendance System in order to make more advanced and increase its reliability and effectiveness. Biometrics is automated technique of identifying a person behavioural or physiological characteristic.

A fingerprint scanner has two basic tasks which are,

- It requires to get an image of a person finger.
- It requires identifying and diagnosing that whether the pattern of ridges and valleys in current image matches the pattern of ridges and valleys of previous scanned images.

Unique characteristics of every fingerprint are filtered and saved as a mathematical representation. The image of fingerprint will not be saved, only sequence (series) of binary code, that is used for verification is saved the algorithm can't be transformed to an image, so no one can duplicate any one's fingerprint.